

## REMARKS

This Amendment is in response to the Office Action dated October 3, 2001. Claims 1-6 were cancelled and replaced with new claims 7-12 as shown above. New claims 7-12 find support in the specification and original claims 1-6. Claims 7-12 remain pending in the application. Applicants respectfully request reconsideration and allowance of all pending claims in view of the above amendments and the following remarks.

### Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 1-6 under 35 U.S.C. § 103(a) as obvious in view of, and therefore unpatentable over, combinations of three references: U.S. Patent No. 5,077,498 to Odenthal ("Odenthal"), U.S. Patent No. 5,204,585 to Chen ("Chen"), and U.S. Patent No. 5,734,235 to Noguchi ("Noguchi").

According to the Examiner, Odenthal discloses a cathode ray tube comprising an electron gun which includes a cathode producing a beam of electrons, grids forming a triode positioned in the neck, and an einzel focus lens 16 including a focus electrode 52 positioned between second accelerating electrodes 54 and final accelerating electrode 56. The focus electrode 52 receives a potential via one of the base pins 51, and the outer electrodes 54 and 56 receive a voltage between 12 and 24 kilovolts. The einzel focus lens 16 forms an electron beam with low spherical aberration. The Examiner concedes that Odenthal does not disclose a final accelerating electrode having a conductive coating on the neck, nor a second accelerating electrode connected to an external potential via the high voltage stem pin.

the form of a conductive coating deposited on the inner surface of the glass envelope, and electrically coupled to an anode button for receiving the anode voltage  $V_A$ . Further, the Examiner asserts that the main focus lens of the electron gun of Chen has a larger diameter, which reduces electron beams spherical aberration and improves the electron beam spot on the CRT display screen. The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the final accelerating electrode 56 on the einzel focus lens of Odenthal to an internal conductive coating connected to

an anode potential as suggested by Chen, thus increasing the diameter of the main focusing lens hence reducing electron beam spherical aberration.

Finally, the Examiner asserts that Noguchi discloses an electron gun for a cathode ray tube having voltages supplied from stem pins provided in the stem. According to the Examiner, Noguchi teaches that the final accelerating voltage supplied from the anode button and the focus voltage  $V_F$  are in a range of 3 to 12 kilovolts supplied via a pin 101. Accordingly, the Examiner asserts that the number of high focus voltages to be supplied via stem pins is reduced to only one, so that the electron gun for use in a cathode ray tube eliminates the need for any special socket for supplying voltage. The Examiner concludes that it would have been obvious to one with ordinary skill in the art at the time the invention was made to use the isolated high voltage stem pin as taught by Noguchi to supply a high voltage of 12 kilovolts to the second accelerating electrode 54, and other pins for supplying low voltages to the other electrodes of Odenthal, thus eliminating the need for any special type of socket.

As to claims 2 and 4, the Examiner asserts that Odenthal in view of Chen discloses that the potential supply to the second accelerating and final accelerating electrodes are the same and are equal to the anode potential, enhance the external potential supplied by the high voltage stem pin to the second electrode is the anode potential. As to claims 3, 5 and 6 the Examiner asserts that Odenthal discloses the high voltage potential applied to the outer electrodes has a magnitude between 12 kilovolts and 24 kilovolts.

Applicant respectfully traverses the Examiner's rejections. To establish a *prima facie* case of obviousness, three criteria must be met: (1) the prior art references must teach or suggest all the claim limitations; (2) some suggestion or motivation to combine the references must be

As further explained below, a *prima facie* case of obviousness has not been established because criteria (1) and (2) have not been met.

Odenthal, Noguchi and Chen, taken together, do not teach or suggest all limitations in claim 7. Specifically, claim 7 recites a CRT comprising, among other things, "a final accelerator electrode comprising a continuous internal conductive coating on the neck and the funnel." The Examiner concedes that Odenthal does not disclose such a limitation, and a reading of Noguchi shows that it also does not teach such a limitation. Similarly, and contrary to the Examiner's

assertion, Chen does not disclose this limitation. Chen teaches that an electrode G6 is created by depositing a conductive coating immediately adjacent to or on the inner surface of the frusto-conical funnel portion 68b of the CRT's glass envelope 68 (col. 9, lines 10-13), and that a separate electrode G5 be created by depositing similar conductive coating on the inner surface of the neck portion 68a (col. 12, line 63 to col. 13, line 2). Chen also teaches that a resistive coating 84 should separate the electrodes G5 and G6 (col. 13, lines 10-16). Thus, Chen cannot teach "a final accelerator electrode comprising a continuous internal conductive coating on the neck and the funnel." Additionally, Chen teaches that the electrode G6 is connected to an anode potential by an anode button for charging to the anode potential. The G5 electrode, however, is not charged by means of the anode button (col 13, lines 16-25). Thus, Chen also cannot teach "a final accelerator electrode comprising a continuous internal conductive coating on the neck and the funnel, wherein the final accelerator electrode is connected to anode potential through an anode button in the neck."

Even if, *arguendo*, Odenthal, Noguchi and Chen did teach every element of the claimed invention, these three references cannot render the claimed invention obvious because they do not teach the combination attempted by the Examiner. Neither Odenthal nor Noguchi teach or discuss the application of an internal conductive coating on the neck, and thus cannot teach or suggest combination with any reference that discloses such a coating. Chen teaches that a conductive coating should be applied to the interior of the neck and the funnel, but does not teach or suggest "a final accelerator electrode comprising a continuous internal conductive coating on the neck and the funnel" In fact, Chen teaches away from such an arrangement, because it teaches that a resistive coating 84 should be deposited between the G5 electrode in the neck and the funnel portion 68b (col. 9, lines 26-29). This is

the direct opposite of constructing a CRT having "a final accelerator electrode comprising continuous internal conductive coating on the neck and the funnel." Chen also teaches away from charging both electrodes G5 and G6 using the anode button, and therefore teaches the opposite of "a final accelerator electrode comprising a continuous internal conductive coating on the neck and the funnel, wherein the final accelerator electrode is connected to anode potential through an anode button in the neck." For the above reasons, Applicant respectfully submits that claim 7 is in condition for allowance, and requests withdrawal of the rejection and allowance of the claim.

Claims 10 and 12 both recite a CRT comprising, among other things, "a final accelerator electrode comprising a continuous internal conductive coating on the neck and the funnel." As discussed above in connection with claim 7, none of the three references relied upon in this Office Action teaches this limitation. Moreover, as explained above the references, taken alone or in combination, provide no suggestion to produce the combination attempted by the Examiner. For the above reasons, Applicant respectfully submits that claims 10 and 12 are in condition for allowance, and requests withdrawal of the rejection and allowance of the claim.

Regarding claims 8, 9 and 11, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claims 7, 10 and 12 are in condition for allowance. Applicant therefore respectfully submits that claims 8, 9, and 11 are allowable by virtue of their dependence on allowable claims, and by virtue of the features recited therein. Applicant therefore respectfully requests withdrawal of the rejections and allowance of these claims.

#### Conclusion

Applicant respectfully requests reconsideration of the application in view of the above new claims and remarks. None of the cited references, alone or in any motivated combination, disclose, teach, or suggest what is recited in the independent claims. Thus, the independent claims are in condition for allowance. The dependent claims that depend directly or indirectly on these independent claims are likewise allowable based on at least the same reasons and based on ~~... contained in each dependent claim.~~

If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to allowance of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 292-8600.

Charge Deposit Account

Please charge our Deposit Account No. 02-2666 for any additional fee(s) that may be due in this matter, and please credit the same deposit account for any overpayment.

Respectfully submitted,

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